REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-6, 8-11, and 13-20 are pending in this case. Claims 2, 7, and 12 have been previously canceled without prejudice or disclaimer.

The outstanding Official Action includes a rejection of Claims 1-3[1], 6-8[2], 11-13[3], and 16-20 under 35 U.S.C. §103(a) as being unpatentable over <u>Kan</u> (U.S. Patent No. 5,355,508) in view of <u>Venable</u> (U.S. Patent No. 6,705,456) and <u>Papenberg</u> (U.S. Patent No. 4,841,435), a rejection of Claims 4, 9, and 14 under 35 U.S.C. §103(a) as unpatentable over <u>Kan</u> in view of <u>Venable</u> and <u>Papenberg</u> in further view of <u>Arimilli et al.</u> (U.S. Patent No. 6,023, 746, <u>Arimilli</u>), a rejection of Claims 5, 10, and 15 under 35 U.S.C. §103(a) as unpatentable over <u>Kan</u> in view of <u>Venable</u> and <u>Papenberg</u> in further view of <u>Yamagami et al.</u> (U.S. Patent No. 6,229,954, <u>Yamagami</u>).

The rejection of Claims 1-3, 6-8, 11-13, and 16-20 under 35 U.S.C. §103(a) as being unpatentable over <u>Kan</u> in view of <u>Venable</u> and <u>Papenberg</u> is traversed for the reasons noted below.

Turning first to the arrangement of independent Claim 1 subject matter, it is believed to be clear that the Claim 1 recited "arithmetic processing unit" is the Claim 1 element that must include the following arrangement of subcombination elements:

> a programmable arithmetic processing section configured to provide simultaneous processing of plural image data portions,
> a memory configured with a plurality of addressable memory locations, with each memory location storing image data portions relating to the image data provided by the image unit,
> a control register section configured to receive control inputs directly from said control unit outside of said arithmetic processing unit, said control

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[1] Inclusion of Claim 2 appears to be a typographical error as Claim 2 has been canceled.
[2] Inclusion of Claim 7 appears to be a typographical error as Claim 7 has been canceled.
[3] Inclusion of Claim 12 appears to be a typographical error as Claim 12 has been canceled.

register section being further configured to provide control register section outputs based on said control inputs, and

a memory controller section configured to be responsive to the control register section outputs to control selection of one data transfer mode from a plurality of data transfer modes available to provide different data transfer operations between the arithmetic processing unit and the memory, said transfer modes including at least a random access transfer mode in which a memory address must be included to access the memory for said data transfer and at least one other data transfer mode.

This required arrangement of Claim 1 subject matter makes it clearly impossible to read the Fig. 2 element 108 (one of 4096 processing elements, see col. 6, lines 23-26 of Kan) as the Claim 1 "arithmetic processing unit" as done at page 4 of the outstanding Action. In this respect, it is noted, for example, that none of these Kan disclosed elements 108 are taught or suggested by Kan to include either the Claim 1 recited "control register section" or the Claim 1 recited "memory controller section."

Moreover, while each Fig. 2 element 108 is taught to include "an 8 bit arithmetic unit (not shown) and a 16 bit local memory (not shown)" (see Kan at col. 6, lines 23-29), even these elements do not correspond to the claimed "programmable arithmetic processing section" and the claimed "memory" because these Kan components are not taught or suggested to perform the functions required of the Claim 1 "programmable arithmetic processing section" or the Claim 1 recited "memory."

In this last regard, the Kan suggested "8 bit arithmetic unit" is clearly not taught or suggested to be able to perform the Claim 1 recited "simultaneous processing of plural image data portions" that the Claim 1 "programmable arithmetic processing section" must provide. Also, the Kan suggested "16 bit local memory" is not taught or suggested to be "configured with a plurality of addressable memory locations, with each memory location storing image data portions relating to the image data provided by the image unit" as Claim 1 further requires.

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Apparently realizing that none of the above-noted 4096 processing elements 108 of

Fig. 2 of Kan is taught or suggested to include the above-noted Claim 1 elements that are

required to be a part of the Claim1 arithmetic processing unit (i.e., the Claim 1

"programmable arithmetic processing section," the Claim 1 "memory," the Claim 1 "control

register section," and the Claim 1"memory controller section"), the outstanding Action sets

forth these claimed elements as reading on different components of Kan that are clearly **NOT**

INCLUDED AS PARTS OF 108 AND OTHERWISE NOT ARRANGED AS

REQUIRED BY Claim 1. However, this selection of different components from Kan that

are purposely disclosed to be arranged differently from the claimed arrangement is

insufficient to establish a prima facie case of obviousness without any explanation of the

motivation that would have led the artisan to rearrange these Kan components into the

claimed arrangement. *See In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.

Cir. 2000) as follows:

> Further, a rejection cannot be predicated on the mere identification in [the
> reference] of individual components of claimed limitations. Rather, particular
> findings must be made as to the reason the skilled artisan, with no knowledge
> of the claimed invention, would have selected these components for
> combination in the manner claimed. [Emphasis added].

Thus, the outstanding Action is in error because it gives no explanation as to why the

artisan would rearrange the relied upon components in Kan to meet the Claim 1 requirement

that the "programmable arithmetic processing section" must be included in the Claim 1

"arithmetic processing unit configured to receive the image data from the image unit."

Instead of the claimed arrangement, Kan teaches that SIMD unit 50 (suggested at page 4 of

the outstanding Action to correspond to the Claim 1 "programmable arithmetic processing

section") is arranged to include the processing elements 108, not the opposite arrangement

required by Claim 1. Thus, the actual teachings of Kan lead to a complete reversal of the

required Claim 1 arrangement.

This improper hindsight rearrangement of the actual components taught by <u>Kan</u> is continued as to the Claim 1 recited "memory." In this respect, the Claim 1 memory must be included in the Claim 1 recited "arithmetic processing unit." However, page 4 of the outstanding Action suggests that this Claim 1 "memory" is taught by the <u>Kan</u> disclosure of "Fig. 2, elements 42 and 98-101." However, even a casual glance at Fig. 2 reveals that elements 98-101 of common memory 42 are completely outside the processing elements 108 as well as being completely outside SIMD type data processing unit 50. This is no accident as this memory must be shared by both the SIMD type data processing unit 50 as well as the MMD type processing unit 51. Claim 1 does not simply claim a "memory" arranged anywhere; instead, the Claim 1 recited "memory" must be arranged in the Claim 1 recited "arithmetic processing unit."

Similarly, to whatever extent the controller 11 being asserted at page 5 of the outstanding Action to read on the Claim 1 "control register section" might include a "register," this controller 11 is taught by <u>Kan</u> to be arranged as a part of the SIMD type data processing unit 50, not as a part of any of the processing elements 108. Again, the outstanding Action fails to present any reason why the artisan would have been led to rearrange <u>Kan</u> so that elements 108 would include this controller, much less how controller 11 could perform system control for the SIMD type data processing unit 50 (as to further relied upon control of 102 and 103) when arranged in one of the processing elements 108.

The teaching of <u>Kan</u> at col. 6, lines 13-22, is further that the data to be processed is stored on disk unit 93 and transferred to common memory 42. After parallel processing by SIMD type data processing unit 50 or by MIMID type parallel processing unit 51, this processed data is to be stored on the disk unit 93 through the bus connector 92. Col. 6 (see lines 2-3) also teaches that "[w]hen common memory 42 is used, segment numbers, and addresses are specified."

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This further means that the artisan would have to totally abandon the <u>Kan</u> addressing features and adopt a completely different approach in order to incorporate the <u>Papenberg</u> required data alignment system for transfer of system words or random access. As noted in *In re Ratti*, 270 F.2d 810, 813 123 USPQ 349, 352 (CCPA 1959) if the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate," the suggested modification is improper. Therefore, the rationale offered as to motivation being present because of the noted Papenburgh benefits is outweighed by the requirements for a substantial reconstruction and redesign of the elements shown in <u>Kan</u> as well as a change in the basic principle under which the <u>Kan</u> embodiments with common memory 42 was designed to operate.

Furthermore, to whatever extent that <u>Venable</u> teaches or suggests the features noted at page 7 of the outstanding Action, it clearly does not cure any of the above-noted deficiencies of <u>Kan</u> and <u>Papenburg</u>.

Accordingly, the rejection of independent Claim 1, and Claims 3 and 17-20 that depend from Claim 1, as being unpatentable over <u>Kan</u> in view of <u>Venable</u> and <u>Papenburg</u> are traversed for all of the reasons set forth above. In addition, the rejection as applied to dependent Claims 3 and 17-20 is further traversed because of the further features that these claims add to those of Claim 1, which further features are not adequately addressed in the outstanding Action.

Independent Claim 6 is similar in subject matter and subject matter arrangement to independent Claim 1. The only difference is that Claim 6 invokes the sixth paragraph of 35 U.S.C. § 112 by reciting "means." Besides clearly defining patentably over these references for all the same reasons that independent Claim 1 does, Claim 6 is further patentable over

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these references as they do not teach the required "means" of Claim 6. In this regard, it is

well established that the broadest reasonable interpretation that an examiner may give means-

plus-function language in a pending application is the interpretation statutorily mandated by

the sixth paragraph of 35 U.S.C.§112. *See in re Donaldson Co.,* 16 F.3d 1189, 1194-95, 29

USPQ2d 1845, 1850 (Fed. Cir.1994) (in banc). This requirement has been ignored as to

independent Claim 6.

In addition, it is well established that conclusory statements cannot be substituted for

the findings that must be made as to "means" claims. *See Gechter v. Davidson* 116 F.3d

1454, 1460, 43 USPQ2d 1030, 1035 (Fed. Cir. 1997) as follows:

> In addition, the [PTO] never construed the scope of the structures disclosed in
> the specification for the claimed [means], nor did the [PTO] expressly find
> that the [means] disclosed in the specification was structurally equivalent to
> that embodied in [the reference]. Moreover, the [PTO] also failed to define
> the exact function of [each] means, as well as to find that [the reference]
> disclosed the identical function. [Emphasis added, citation omitted.]

As the required construing of the scope of the Claim 6 means is absent along with the

required finding of structural equivalence and the required definition of functions performed,

the rejection as applied to Claim 6 is further traversed for these reasons as well.

Accordingly, the rejection of independent Claim 6, and Claim 8 that depends from

Claim 6, as being unpatentable over Kan in view of Venable and Papenburg is traversed for

all of the reasons set forth above as to independent Claims 1 and 6.

In addition, the rejection as applied to dependent Claim 8 is further traversed because

of the further features that this claim adds to those of Claim 6, which further features are not

adequately addressed in the outstanding Action.

Independent Claim 11 is similar in subject matter and subject matter arrangement to

independent Claim 1 except that it recites the steps of operation of the Claim 1 arrangement

of elements. Accordingly, the rejection of independent Claim 11, and Claim 13 that depends

from Claim 11, as being unpatentable over Kan in view of Venable and Papenburg is traversed for all of the reasons set forth above as to independent Claim 11.

In addition, the rejection as applied to dependent Claim 13 is further traversed because of the further features that this claim adds to those of Claim 11, which further features are not adequately addressed in the outstanding Action.

Independent Claim 16 is similar in subject matter and subject matter arrangement to independent Claim 11. The only difference is that independent Claim 16 recites a computer program on a record medium that causes a computer to cause an image forming apparatus to perform the Claim 11 method.

Accordingly, the rejection of independent Claim 16 as being unpatentable over Kan in view of Venable and Papenburg is traversed for all of the reasons set forth above as to independent Claim 11.
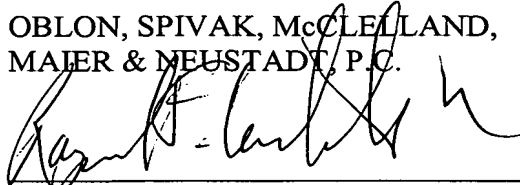
Turning to the rejection of Claims 4, 9, and 14 under 35 U.S.C. §103(a) as unpatentable over Kan in view of Venable and Papenberg in further view of Arimilli and the rejection of Claims 5, 10, and 15 under 35 U.S.C. §103(a) as unpatentable over Kan in view of Venable and Papenberg in further view of Yamagami, it is noted that neither Arimilli nor Yamagami correct the deficiencies noted in Kan in view of Venable and Papenberg as set forth above. Accordingly, as Claims 4 and 5 depend on independent parent Claim 1, Claims 9 and 10 depend on independent parent Claim 6, and Claims 14 and 15 depend on independent parent Claim 11, these dependent claims are submitted to define over the applied references for the reasons set forth above as to these respective independent parent claims. In addition, the rejections applied to these dependent claims are further traversed because of the further features that these dependent claims add to those of their respective independent parent claim, which further features are not adequately addressed in the outstanding Action.

Accordingly, the outstanding rejections are traversed and the pending claims are

believed to be in condition for formal allowance. An early and favorable action to that effect

is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Gregory J. Maier
Attorney of Record
Registration No. 25,599

Raymond F. Cardillo, Jr.
Registration No. 40,440

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

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